**Case 3605** 

PHYCINAE Lyneborg, 1976 (Insecta, Diptera, THEREVIDAE): proposed emendation of spelling to PHYCUSINAE to remove homonymy with PHYCINAE Swainson, 1838 (Osteichthyes, Gadiformes, PHYCIDAE); and Phycis Walbaum, 1792 (Osteichthyes, Gadiformes, PHYCIDAE): proposed conservation of usage by designation of Blennius phycis Linnaeus, 1766 as the type species

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Abstract. The purpose of this application, under Articles 29 and 55.3 of the Code, is to remove homonymy between the family-group names PHYCINAE Swainson, 1838 (Osteichthyes, Gadiformes, PHYCIDAE) and PHYCINAE Lyneborg, 1976 (Insecta, Diptera, THEREVIDAE). It is proposed that the stem of the genus-group name Phycus Walker, 1850, on which the insect family-group name is based, be emended to change the family-group name to PHYCUSINAE, leaving the fish family-group name, based on Phycis Walbaum, 1792, unaltered. An issue regarding the type-species of Phycis Walbaum, 1792, came to light in this process, namely that the previously assumed type species, Tinca marina (attributed to Walbaum (1792) and considered a junior synonym of Blennius phycis Linnaeus, 1766), is a nomen nudum. So, an additional purpose of this application, under Articles 78.1 and 81.1 of the Code, is to maintain the prevailing usage of Blennius phycis Linnaeus, 1766 as the de facto type species of Phycis Walbaum, 1792 by setting aside all previous type species designations and designating Blennius phycis Linnaeus, 1766 as the type species

Keywords. Nomenclature; taxonomy; Insecta; Osteichthyes; Diptera; Gadiformes; Lepidoptera; PHYCIDAE; PYRALIDAE; THEREVIDAE; PHYCINAE; PHYCUSINAE; PHYCITINAE; Phycus; Phycis; Phycita; Blennius phycis; Xylophagus canescens; Phycus brunneus; stiletto flies; moths; hakes; terrestrial; marine; Atlantic.

1. Artedi (1738a, p. 84; 1738b, p. 111) was the first modern author to use the name Phycis. This pre-Linnaean work was published posthumously by Linnaeus (for the history of the publication see Pietsch, 2010). In his Synonymia, Artedi (1738b, p. 111) listed the sources of the name, including the oukic of Aristoteles (1619, originally published in the 4th century B.C.), the Phycis of Rondelet (1554, p. 186; misspelled as Physis by Artedi, 1738b), the Phuca sive Phycis of Salviani (1558, p. 228), and the Tinca marina of Salviani (1558, p. 93, pl. opposite p. 230). These are unavailable

names, but Linnaeus (1766, p. 442) described his *Blennius phycis* based on the *Blennius* of Goüan in a manuscript prior to Goüan (1770, p. 123) (i.e. 'B. naribus subcristatis, cirro labii inferioris, dorio bipenni. Gouan.'), and on the *Phycis* of Artedi (1738b). The current usage of that species as *Phycis phycis* (Linnaeus, 1766) is summarised by Eschmeyer (2013).

2. Walbaum (1792, p. 575) (sometimes referred to as 'Walbaum [ex Artedi]' or 'Artedi in Walbaum') established the fish genus Phycis. The type species is not Tinca marina Salviani, 1558 as assumed by recent authors including Cohen (1971, p. 327), Svetovidov (1973, p. 314) and Eschmeyer (1990, p. 313; 1998, p. 2075; 2013). Walbaum's heading is 'PHYCIS Art. Syn. 111 seu Tinca marina', meaning 'Phycis of Artedi or *Tinca marina* of other authors'; the latter name is not an available name, but a nomen nudum which was cited as a reference to Artedi (1738b), who included the Phycis (φυκίς) of Aristoteles (1619) and Rondelet (1554), and the Tinca marina of Salviani (1558) and later authors under his heading of Phycis. Before Cohen (1971), many ichthyological authors ignored Walbaum's work (see Parenti, 2002: 309); therefore, the genus Phycis was incorrectly attributed to authors other than Walbaum, 1792, with various type species treatments. For example, Günther (1862, p. 351) and Goode & Bean (1896, p. 356) dated Phycis to Bloch & Schneider (1801, p. 56), with the type species Phycis tinca Bloch & Schneider, 1801, p. 56 (which is currently treated as having been a new replacement name for Blennius phycis Linnaeus, 1766); Jordan (1917, p. 51) dated Phycis to Röse (1793, p. 111) with Phycis tinca Bloch & Schneider, 1801 as the type species (but as a synonym of Phycis blennoides Brünnich, 1768, p. 24); Fowler (1936, p. 473) dated Phycis to Röse (1793) and listed Gadus phycis 'Linnaeus, 1758' as the type species (there is no species Gadus phycis described in Linnaeus, 1758). By monotypy, the type species of Phycis Walbaum, 1792 is Gadus bifurcus Walbaum, 1792, p. 137, which is mentioned as the only species of the genus Phycis in the footnote of Walbaum (1792, p. 576); this footnote was missed by Cohen (1971), who had also attributed the first usage of Tinca marina to Aldrovandi (1638, p. 291) and not to Salviani (1558). Gadus bifurcus was described by Walbaum (1792) based on the Forked Hake of Pennant (1776, p. 193, pl. 31), and Tinca marina Cetti, 1777, p. 101, which appeared without description and is another nomen nudum. Pennant's Forked Hake was based on Artedi's Phycis and several other historical sources, which were referring to both Blennius phycis Linnaeus, 1766 and Gadus blennoides Brünnich, 1768, p. 24. Günther (1862, p. 352) acted as the First Reviser of this case, treating Gadus bifurcus Walbaum, 1792 as a junior subjective synonym of Phycis blennoides (Brünnich, 1768). This interpretation of the type species, however, threatens stability of nomenclature, as the previously and long assumed type species Tinca marina Walbaum, 1792 has been treated as a junior synonym of Phycis phycis (Linnaeus, 1766) by recent authors including Cohen (1971), Svetovidov (1973), Cohen et al. (1990, p. 68) and Eschmeyer (1998, p. 1022; 2013). It would be ill-advised to change the currently recognized type species of the genus, because in future the two species may be classified in separate genera; in that case, retaining Phycis blennoides (Brünnich, 1768) as the type species of Phycis Walbaum, 1792 would threaten stability of nomenclature by changing the generic affiliations of both Phycis phycis (Linnaeus, 1758) and Phycis chesteri Goode & Bean, 1878. As Tinca marina Walbaum, 1792 must be considered as a nomen nudum and Gadus bifurcus Walbaum, 1792 is considered a junior synonym of a different species,

a ruling of the Commission is needed to settle this confusion and maintain the prevailing usage of the genus-group name *Phycis* Walbaum, 1792 with its type species *Blennius phycis* Linnaeus, 1766.

3. Fabricius (1798, p. 420) established the moth genus Phycis. Curtis (1828, p. 233) established the new replacement name Phycita for this genus, due to the homonymy with the fish genus Phycis (i.e. 'Phycis having been long employed to designate a group of fishes'). The type species is Tinea spissicella Fabricius, 1777, p. 295, by subsequent designation relative to Phycis, but original designation relative to Phycita, by Curtis (1828, p. 233), who used the incorrect subsequent spelling spicicella. Interestingly, both Lepindex (Beccaloni et al., 2003) and Fletcher & Nye (1984, p. 119) refer to the type species as having been described in Fabricius (1794, p. 289). For the former record, the physical Lepidoptera index card in the Natural History Museum (London) correctly indicates Fabricius (1777) for the species name, but the associated Lepindex database record indicates Fabricius (1794). Looking at both papers (Fabricius, 1777 and 1794), it is clear that the 1794 record for this species is subsequent usage, as the descriptive text is identical apart from the added line in 1794: 'Statura oblonga T. sociellae', seemingly adding a comparative characteristic between this species and Tinea sociella Linnaeus, 1758, p. 534. In any case, this species is considered a junior synonym of Tinea roborella Denis & Schiffermüller, 1775, p. 138, currently Phycita roborella.

4. Swainson (1838, p. 321) established the family-group name PHYCINAE, as a subfamily of GADIDAE, for fishes of the genus Phycis Walbaum, 1792. In the same work, Swainson (1838, p. 322) misspelled the genus name as Physis in one instance (also spelling it correctly several times on the same page). In Volume II of the same work, Swainson (1839) misspelled the genus as Physis on pages 188 and 301, in appendix pages 391 and 392, and in the index page 452; the subfamily name was misspelled as PHYSINAE on page 188, but spelled correctly on page 301. This family-group name has been used extensively in the fish literature (see Cohen et al., 1990; Nelson, 1994, 2006; Roa-Varón & Orti, 2009; Eschmeyer 1990, 2013); it is currently used as valid for the family PHYCIDAE in the order Gadiformes, following Cohen (1984, p. 265). This family includes two valid genera and 11 valid species (Eschmeyer, 2013; Eschmeyer & Fong, 2013); most species are of commercial importance for the fishing industry. 5. Zeller (1839, p. 175) established the family-group name PHYCIDAE (as PHYCIDEEN), based on the moth genus Phycis Fabricius, 1798, apparently not realizing or not accepting the new replacement name Phycita Curtis, 1828. Although many authors subsequent to Curtis (1828) used the name Phycita, others persisted in the use of Phycis, but the family-group name was only replaced by PHYCITINAE more than 50 years later by Ragonot (1885, p. 20), and has been the accepted name for a subfamily of PYRALIDAE (or as its own family) since that time, although even some later authors persisted in the use of Phycis and the family-group name derived from it (e.g. Bethune-Baker, 1894), and Lord Walsingham (1914, p. 357) even went so far as to explain his rejection of the replacement name of Curtis (1828). The homonymy of PHYCIDAE Zeller, 1839 and PHYCIDAE Swainson, 1838 has already been removed by the action of Ragonot (1885) replacing the name PHYCIDAE Zeller with PHYCITINAE, subsequent to Curtis (1828) replacing the name Phycis Fabricius with Phycita, and so does not affect the current application.

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6. Walker (1850, p. 2) established the fly genus *Phycus*. The type species is *Xylophagus canescens* Walker, 1848, p. 129, by monotypy. Lyneborg (1975, p. 91) synonymized this species under *Xylophagus brunneus* Wiedemann, 1824, p. 19, which Wulp (1896, p. 69) had previously placed in *Phycus*.

7. Lyneborg (1976, p. 197) established the family-group name PHYCINAE, as a subfamily of THEREVIDAE (Insecta, Diptera), for the fly genus *Phycus* Walker, 1850. Currently, this subfamily contains 12 valid, extant genera and 4 valid, fossil genera. Among the works using this family-group name are Lyneborg (1978, 1983, 1987, 1988, 1989a, 1989b), Irwin and Lyneborg (1981a, 1981b); Irwin (1983); Webb & Irwin (1989), Hauser & Webb (2007), Gaimari & Webb (2009).

8. PHYCINAE Lyneborg, 1976 is a junior homonym of PHYCINAE Swainson, 1838, although the two family-group names are based on non-homonymous type genera, *Phycus* Walker, 1850 and *Phycis* Walbaum, 1792. As such, under Article 55.3.1 of the Code, the homonymy between the two family-group names must be referred to the Commission. We propose that the entire generic name *Phycus* Walker, 1850 be adopted as the grammatical stem, so the family-group name of Lyneborg (1976) will become PHYCUSINAE and the homonymy will be removed.

9. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power:

- (a) to rule that for the purposes of Article 29 of the Code the stem of the generic name *Phycus* Walker, 1850, is *Phycus*-;
- (b) to set aside all previous type species fixations for the generic name *Phycis* Walbaum, 1792 and designate *Blennius phycis* Linnaeus, 1766 as the type species;
- (2) to place on the Official List of Generic Names in Zoology the following names:
  - (a) *Phycus* Walker, 1850 (gender: masculine), type species *Xylophagus* canescens Walker, 1848, by monotypy (Insecta, Diptera);
  - (b) *Phycis* Walbaum, 1792, type species *Blennius phycis* Linnaeus, 1766 (Osteichthyes, Gadiformes), as ruled in (1) above;

(3) to place on the Official List of Specific Names in Zoology the following names:

 (a) canescens Walker, 1848, as published in the binomen Xylophagus canescens (specific name of the type species of Phycus Walker, 1850) (Insecta, Diptera);

- (b) phycis Linnaeus, 1766, as published in the binomen Blennius phycis (specific name of the type species of Phycis Walbaum, 1792) (Osteichthyes, Gadiformes), as ruled in (1) above;
- (4) to place on the Official List of Family-Group Names in Zoology the name PHYCUSINAE Lyneborg, 1976, type genus *Phycus* Walker, 1850 (spelling emended by the ruling in (1) above) (Insecta, Diptera);
- (5) to place on the Official Index of Rejected and Invalid Family-Group Names in Zoology the name PHYCINAE Lyneborg, 1976 (an incorrect original spelling of PHYCUSINAE, as ruled in (1) above) (Insecta, Diptera).

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